Booster Diagnostics Summary

Device	Quantity	Features	Parameters & Accuracy
BPM	48 x (H + V) in the ring Also in three beam lines (400 MeV, 8 GeV, MI-8)	Dual plane, stripline type Turn-by-turn (orbit, tune) But not during the first 50 turns	L = 6-8 in, D = 4 in 19,860 points/cycle Resolution: a few hundreds μm Accuracy: 2-3 mm
BLM	48 in the ring 5 for extraction (in L3, L13, upstream of the extraction points) Several in three beamlines	Ion chamber Log Amp amplifier (4 decades)	12.5 kHz
Multiwire	12 in 400 MeV line Several in 8 GeV and MI-8 lines	mm wire spacing	
Single wire scanner	3H + 1V on the injection girder 1H in Period 10		
IPM	1H + 1V in L5	Turn-by-turn, including injection (emittance, width, centroid)	Centroid position calibrated Emittance calculation needs to be understood
Intensity monitor	3	Older one in L20, toroid type One in L1 New one in Period 11 with wider bandwidth (10 kHz, dc coupled) but not in use	
Wall current monitor	One in L18		Bandwidth 6 GHz
Scraper	A pair of primary collimators in Period 5	Carbon foil (30,000 microg/cm^2) For collimation (to be installed)	
Radiation monitor	A system outside the enclosure	Chipmonks	
Schottky pickup	A pair	Stripline type (Removed but could be reinstalled)	Bandwidth 1 GHz
Pinger	1H + 1V	Solid state, 4-5 kV Vertical one used for notching	
Damper	1H + 1V	Stripline type	
Instruments		Fast scopes, FFT, signal analyzers, etc.	Bandwidth 1 GHz